

## In the Claims

1. (currently amended) A coating composition comprising  
a1) a physically drying film forming binder resin or resins;  
a2) a thermally cross linking film forming binder resin or binder resins;  
a3) a radiation curable film forming binder resin or binder resins;  
a4) an autoxidatively drying film forming binder resin or resins; or  
a5) a combination of binder resins with at least two different crosslinking mechanisms~~machanisms~~ selected from a1), a2), a3) or a4);

b) a polymer or copolymer levelling agent of formula (I)  $\text{In}-[(\text{M})_x-(\text{E})_y]_n$  (I) obtained by nitroxyl mediated controlled free radical polymerisation wherein

In is the initiator fragment starting the polymerisation reaction;

M is at least one monomer selected from the group consisting of acrylic acid, methacrylic acid, acrylic acid ( $C_1-C_{22}$ )alkyl esters, acrylic acid ( $C_1-C_{22}$ )hydroxyalkyl esters, methacrylic acid ( $C_1-C_{22}$ )alkyl esters, methacrylic acid ( $C_1-C_{22}$ )hydroxyalkyl esters, acrylic acid ( $C_1-C_{22}$ )alkyl esters or methacrylic acid ( $C_1-C_{22}$ )alkyl esters which are substituted by amino, ( $C_1-C_{22}$ )alkylamino, ( $C_1-C_{22}$ )dialkylamino,  $-\text{SO}_3\text{H}$ , epoxy, fluoro, perfluoro or siloxane groups, styrene, substituted styrene, acrylamide and methacrylamide, N-mono( $C_1-C_{22}$ )alkyl acrylamide, N,N-di( $C_1-C_{22}$ )alkyl acrylamide, and a multifunctional monomer with two or more ethylenically unsaturated bonds;

provided that the amount of unsubstituted acrylic acid ( $C_1-C_{22}$ )alkyl esters or/and methacrylic acid ( $C_1-C_{22}$ )alkyl esters is more than 30 % by weight based on the weight of the total monomer mixture;

E is a group bearing at least one stable free nitroxyl radical, which is bound via the oxygen atom to the polymer or copolymer; or a group which results from a substitution or elimination reaction of the attached stable free nitroxyl radical;

x is the total number of monomer units, which is a number between 5 and 5000;

y is a number 1 or greater than 1 indicating the average number of end groups E attached to the monomer sequence ( $\text{M})_x$ ;

n is a number from 1 to 20; and

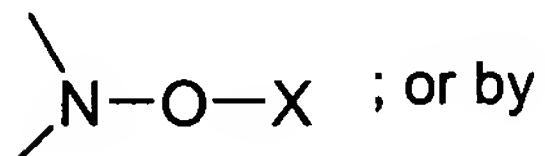
c) optionally water or/and one or more organic solvents.

**2. (original)** A coating composition according to claim 1 comprising  
a2) a thermally cross linking film forming binder resin or binder resins; or  
a3) a radiation curable film forming binder resin or binder resins.

**3. (original)** A coating composition according to claim 1 comprising  
a2) a thermally cross linking film forming binder resin or binder resins.

**4. (original)** A coating composition according to claim 1 comprising  
a2) a thermally cross linking film forming binder resin or binder resins without water and organic solvent, which is in the form of a solid powder.

**5. (original)** A coating composition according to claim 1 wherein the polymer or copolymer levelling agent of formula (I), is obtained by  
b1) polymerization in the presence of an alkoxyamine initiator/regulator having the structural element



; or by

b2) polymerization in the presence of a stable nitroxyl free radical having the structural element

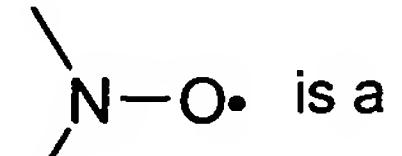


and a radical initiator.

**6. (original)** A coating composition according to claim 5 wherein the structural element

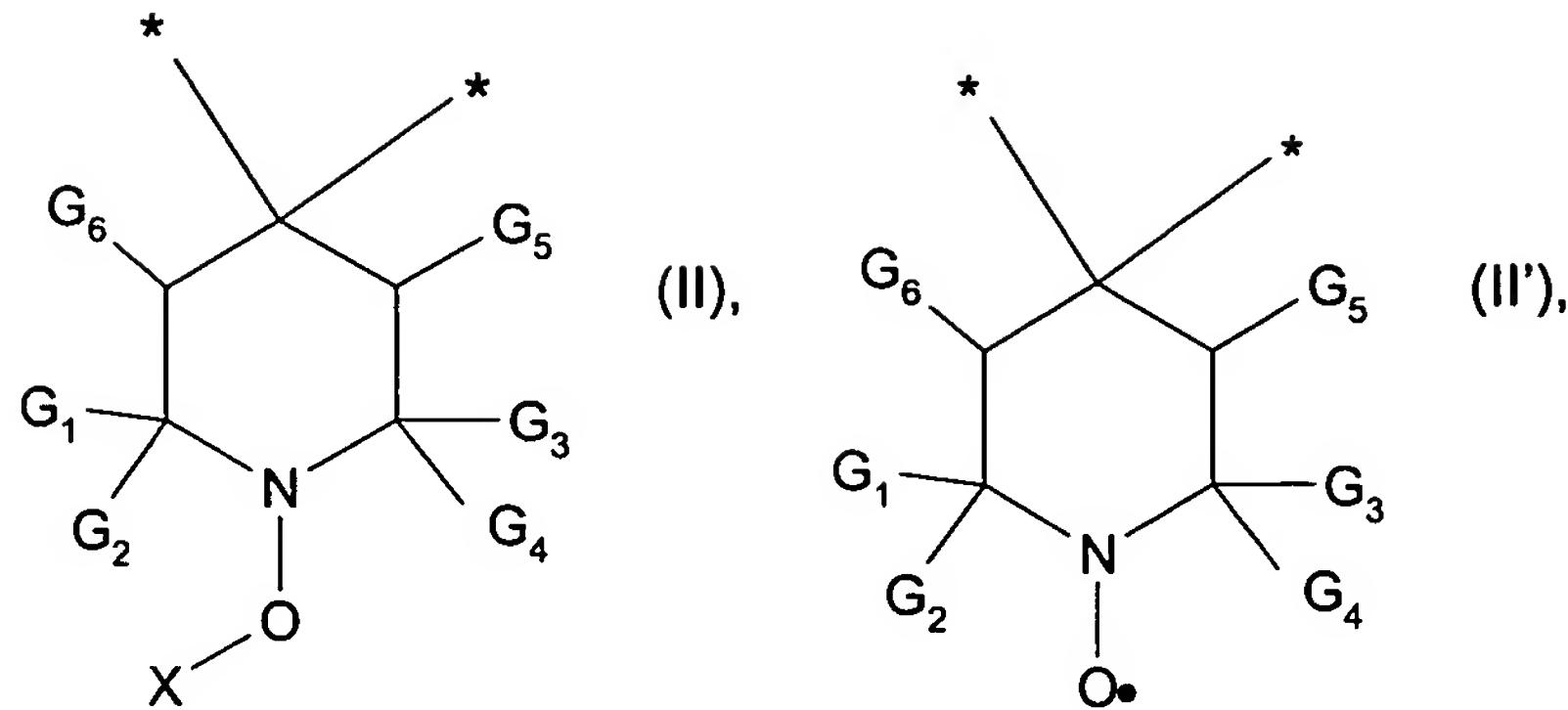


is a structural element of formula (II) and the structural element



is a

structural element of formula (II')



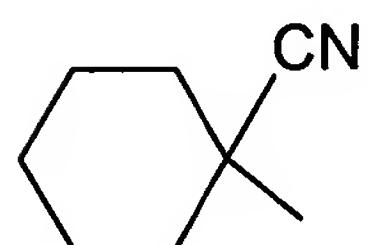
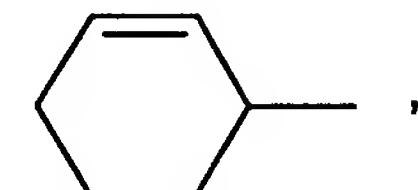
wherein

$G_1$ ,  $G_2$ ,  $G_3$ ,  $G_4$  are independently  $C_1$ - $C_6$ alkyl or  $G_1$  and  $G_2$  or  $G_3$  and  $G_4$ , or  $G_1$  and  $G_2$  and  $G_3$  and  $G_4$  together form a  $C_5$ - $C_{12}$ cycloalkyl group;

$G_5, G_6$  independently are H,  $C_1-C_{18}$ alkyl, phenyl, naphthyl or a group  $COOC_1-C_{18}$ alkyl;

X is selected from the group consisting of

-CH<sub>2</sub>-phenyl, CH<sub>3</sub>CH-phenyl, (CH<sub>3</sub>)<sub>2</sub>C-phenyl, (C<sub>5</sub>-C<sub>6</sub>cycloalkyl)<sub>2</sub>CCN, (CH<sub>3</sub>)<sub>2</sub>CCN,



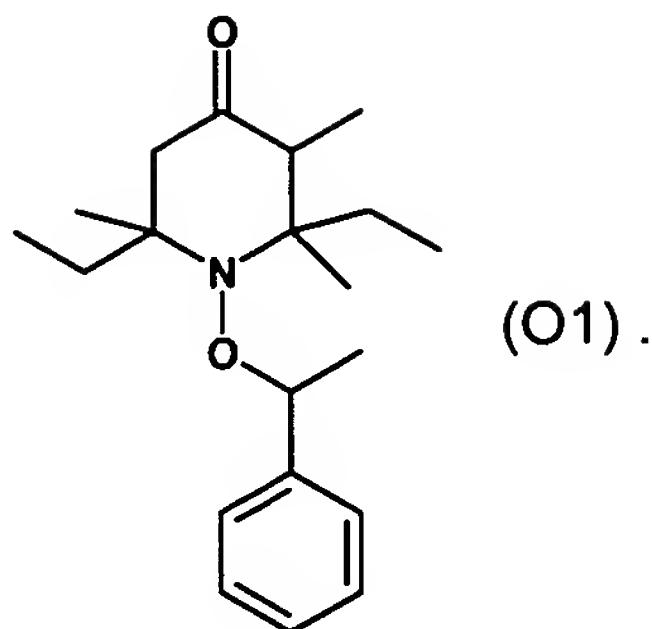
, -CH<sub>2</sub>CH=CH<sub>2</sub>, CH<sub>3</sub>CH-CH=CH<sub>2</sub>, (C<sub>1</sub>-C<sub>4</sub>alkyl)CR<sub>20</sub>-C(O)-phenyl, (C<sub>1</sub>-C<sub>4</sub>)alkyl-CR<sub>20</sub>-

$\text{C}(\text{O})-(\text{C}_1-\text{C}_4)\text{alkoxy}$ ,  $(\text{C}_1-\text{C}_4)\text{alkyl-}\text{CR}_{20}-\text{C}(\text{O})-(\text{C}_1-\text{C}_4)\text{alkyl}$ ,  $(\text{C}_1-\text{C}_4)\text{alkyl-}\text{CR}_{20}-\text{C}(\text{O})-\text{N-di}(\text{C}_1-\text{C}_4)\text{alkyl}$ ,  
 $(\text{C}_1-\text{C}_4)\text{alkyl-}\text{CR}_{20}-\text{C}(\text{O})-\text{NH}(\text{C}_1-\text{C}_4)\text{alkyl}$ ,  $(\text{C}_1-\text{C}_4)\text{alkyl-}\text{CR}_{20}-\text{C}(\text{O})-\text{NH}_2$ , wherein

$R_{20}$  is hydrogen or (C<sub>1</sub>-C<sub>4</sub>)alkyl and

\* denotes a valence.

**7. (original)** A coating composition according to claim 6 wherein the structural element of formula (II) is a compound of formula (O1)



(O1) .

8. (original) A coating composition according to claim 1 wherein the levelling agent, component b), has a polydispersity of between 1.0 and 2.0.

9. (original) A coating composition according to claim 1 wherein the levelling agent, component b), has a glass transition temperature between 20° C and 200° C.

10. (currently amended) A coating composition according to claim 1 wherein the levelling agent, component b), is composed of at least 30 % by weight of tert[[.]]-butylacrylate and/or tert[[.]]-butylmethacrylate, based on the weight of total monomers.

11. (currently amended) A coating composition according to claim 1 wherein the levelling agent, component b), is a linear polymer or copolymer, where[[i.e.]] in formula (I) n is 1.

12. (original) A coating composition according to claim 1 wherein in formula (I), component b), y is 1.

13. (original) A coating composition according to claim 1 wherein the levelling agent, component b), has a molecular weight of between 3000 to 50000 g/mol (Dalton).

**14. (currently amended)** A coating composition according to claim 1 wherein the levelling agent, component b), is composed of at least 30 % by weight of tert[[.]]-butylacrylate and/or tert[[.]]-butylmethacrylate, and 0.5 to 50 % of a functional monomer which is selected from the group consisting of acrylic acid, methacrylic acid, acrylic acid (C<sub>1</sub>-C<sub>6</sub>)hydroxyalkyl esters, methacrylic acid (C<sub>1</sub>-C<sub>6</sub>)hydroxyalkyl esters, acrylic acid (C<sub>1</sub>-C<sub>6</sub>)alkyl esters and methacrylic acid (C<sub>1</sub>-C<sub>6</sub>)alkyl esters which are substituted by amino, (C<sub>1</sub>-C<sub>6</sub>)alkylamino, (C<sub>1</sub>-C<sub>6</sub>)dialkylamino, epoxy, fluoro, perfluoro or siloxane groups.

**15. (currently amended)** A coating composition according to claim 1 wherein the levelling agent, component b), is composed of at least 50 % by weight of tert[[.]]-butylacrylate and/or tert[[.]]-butylmethacrylate and is a solid at room temperature.

**16. (original)** A coating composition according to claim 1 wherein the levelling agent, component b), is present in an amount of 0.1 to 15% by weight, based on the weight of the film forming binder resin or resins, component a).

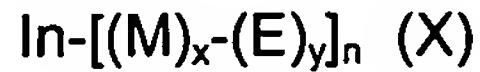
**17. (original)** A process for improving the levelling of a coating composition according to claim 1, which process comprises the steps applying the coating composition to a substrate and exposing it to thermal energy or electromagnetic radiation in order to obtain a homogenous solid coating.

**18. (canceled)**

**19. (currently amended)** A coating composition comprising  
a1) a physically drying film forming binder resin or resins;  
a2) a thermally cross linking film forming binder resin or binder resins;  
a3) a radiation curable film forming binder resin or binder resins;

a4) an autoxidatively drying film forming binder resin or resins; or  
a5) a combination of binder resins with at least two different crosslinking mechanisms~~machanisms~~ selected from a1), a2), a3) or a4);

b) a polymer or copolymer levelling agent of formula (X), prepared by atom transfer radical polymerisation



wherein

In is the initiator fragment starting the polymerisation reaction;

M is at least one monomer selected from the group consisting of acrylic acid, methacrylic acid, acrylic acid ( $\text{C}_1\text{-C}_{22}$ )alkyl esters, acrylic acid ( $\text{C}_1\text{-C}_{22}$ )hydroxyalkyl esters, methacrylic acid ( $\text{C}_1\text{-C}_{22}$ )alkyl esters, methacrylic acid ( $\text{C}_1\text{-C}_{22}$ )hydroxyalkyl esters, acrylic acid ( $\text{C}_1\text{-C}_{22}$ )alkyl esters or methacrylic acid ( $\text{C}_1\text{-C}_{22}$ )alkyl esters which are substituted by amino, ( $\text{C}_1\text{-C}_{22}$ )alkylamino, ( $\text{C}_1\text{-C}_{22}$ )dialkylamino, - $\text{SO}_3\text{H}$ , epoxy, fluoro, perfluoro or siloxane groups, styrene, substituted styrene, acrylamide and methacrylamide, N-mono( $\text{C}_1\text{-C}_{22}$ )alkyl acrylamide, N,N-di( $\text{C}_1\text{-C}_{22}$ )alkyl acrylamide, and a multifunctional monomer with two or more ethylenically unsaturated bonds;

with the proviso that the amount of tert[[.]]-butylacrylate is more than 30 % by weight, based on the weight of the total monomer mixture;

E is Cl, Br or a group introduced by nucleophilic substitution of Cl or Br;

x is the total number of monomer units, which is a number between 5 and 5000;

y is a number 1 or greater than 1 indicating the average number of end groups E attached to the monomer sequence ( $\text{M})_x$ ;

n is a number from 1 to 20; and

c) optionally water or/and one or more organic solvents.

**20. (canceled)**